



Course Name:

Design of natural systems for wastewater treatment

Course Number: 20-894	Credit: 3
Program: Graduate	Course Type: General Selective
Prerequisite: -	Corequisite: -

Course Description (Objectives):

The aim of this course is to explore the design and application of natural systems for wastewater treatment, focusing on various techniques like land treatment systems, stabilization ponds, and constructed wetlands. It also addresses the economic, technical, and health considerations in selecting appropriate treatment methods.

Course Content (outline):

- Chapter 1: The importance of natural systems in wastewater treatment
- Chapter 2: Slow rate land treatment systems
- Chapter 3: Rapid-infiltration land treatment
- Chapter 4: Overflow system
- Chapter 5: Stabilization ponds
- Chapter 6: Floating aquatic plant water treatment system
- Chapter 7: Constructed wetland systems
- Chapter 8: Small systems and absorbing wells
- Chapter 9: Designing for improving the runoff quality
- Chapter 10: Economic, technical and health aspects in natural systems selection

References:

- Crites, Ronald W., E. Joe Middlebrooks, and Robert K. Bastian. *Natural wastewater treatment systems*. CRC Press, 2014.